

February 28, 2022

Dr. Earthea Nance, Regional Administrator
Environmental Protection Agency, Region 6
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Dallas, TX 75270
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Via email and U.S. Mail

Re: Comments and Petition for Objection regarding Application of City of Corpus Christi for TPDES Permit No. TX0139874 (WQ0005289000)—the “Inner Harbor” Desalination Plant—on behalf of Hillcrest Residents Association

Dear Administrator Nance:

Hillcrest Residents Association (“HRA”) respectfully submits these comments regarding the TPDES application for the City of Corpus Christi’s Inner Harbor Desalination Plant identified above (the “Application”). For the reasons provided below, EPA review of the Application is appropriate, and HRA hereby petitions EPA to recommend that the Application be denied. Denial is appropriate for a number of reasons, including that the proposed Inner Harbor Desalination Plant would be located in the environmental justice community of Hillcrest, whose residents are already disproportionately harmed by industrial development. Additionally, the cumulative impact of the proposed discharge has not been sufficiently addressed through a proper Tier 2 anti-degradation analysis, and the Application does not properly address the requirements of CWA § 316(b). Each of these reasons is an independent and sufficient basis for denial of the Application.

We request a meeting with you to discuss the deficiencies raised in this letter and for you to hear directly from Hillcrest Resident Association members about the environmental justice implications of this proposed plant.

I. Delegated Permitting Authority: NPDES and TPDES

In September 1998, the EPA delegated to Texas the administrative authority to administer the National Pollutant Discharge Elimination System (“NPDES”).¹ As a result, the Texas Commission on Environmental Quality (“TCEQ”) oversees the Texas Pollutant Discharge Elimination System (“TPDES”), the Texan counterpart to the NPDES federal regulatory program, which controls the discharge of pollutants to surface waters of the United States.²

TCEQ is currently in the process of reviewing water permits requested by the City of Corpus Christi (“the City”) and the Port of Corpus Christi (“the Port”) for four pending desalination plants. The EPA has determined that at least one of those proposed desalination

¹ <https://www.tceq.texas.gov/assets/public/permitting/wastewater/municipal/tpdesappdoc.pdf>

² https://www.tceq.texas.gov/permitting/wastewater/pretreatment/tpdes_definition.html

plants—the desalination plant proposed by the Port of Corpus Christi (“POCC”) at Harbor Island—is a “Major” facility, because it proposes to discharge process wastewater as defined at 40 C.F.R. § 122.2. The desalination plant proposed by the City of Corpus Christi at Inner Harbor is similar to the one proposed by POCC at Harbor Island, in that it too will generate wastewater from a reverse osmosis process. Accordingly, this Inner Harbor facility should be classified as a “Major” facility, and the EPA has not waived review of Major facilities.

II. The Proposed Inner Harbor Desalination Plant Would Disproportionately Impact the Environmental Justice Community of Hillcrest.

The City plans to locate the Inner Harbor Desalination Plant in the environmental justice community of Hillcrest, which is already inundated with industrial pollution and hazards. EPA must undertake an environmental justice review into its review of this proposed permit, and it must ensure that TCEQ incorporates these concerns into its permitting process as well.

a. An Environmental Justice Review is Required Under Executive Orders and Title VI of the Civil Rights Act.

Protecting low-income and minority communities from harms to their health and environment is a priority that was enshrined at the federal level in 1994 by Executive Order 12898.³ The Executive Order requires federal agencies to “make achieving environmental justice part of [their] mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of [] programs, policies, and activities on minority populations and low-income populations.” *Id.* Executive Order 12898 also calls on agencies to identify and address discriminatory effects of proposed projects on the health or environment of minority populations. *Id.* More recently, Executive Order 12898 was amended by Executive Order 14008, which states in part that “[a]gencies shall make achieving environmental justice part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities[.]”⁴ This policy was further cemented by Executive Order 13390, which reiterated the policy goal of both prioritizing and “advance[ing] environmental justice.”⁵

In addition to the Executive Orders, Title VI of the Civil Rights Act of 1964 prohibits programs and activities that receive federal financial assistance from engaging in discrimination on the basis of race, color, or national origin.⁶ Under the EPA’s regulations implementing Title VI, recipients of federal financial assistance from the EPA are barred from both intentional discrimination and from practices that have the effect, or unintended outcome, of discriminating

³ Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Feb. 11, 1994), <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>.

⁴ Executive Order 14008, Tackling the Climate Crisis at Home and Abroad (Jan. 27, 2021), <https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad>.

⁵ Executive Order 13390, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (Jan. 20, 2021), <https://www.federalregister.gov/documents/2021/01/25/2021-01765/protecting-public-health-and-the-environment-and-restoring-science-to-tackle-the-climate-crisis>.

⁶ Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d et seq.

on the basis of race, color, national origin, or sex.⁷ In relevant part, the regulations require recipients of financial assistance to avoid siting or permitting facilities in locations that would have “*the purpose or effect* of excluding individuals from, denying them the benefits of, or subjecting them to discrimination under any program or activity to which this part applies on the grounds of race, color, or national origin or sex.”⁸ Thus, despite apparent neutrality, environmental laws, policies, public participation practices, and decisions may create unintentional discriminatory consequences that violate Title VI.

Under the Environmental Justice Executive Orders and Title VI, EPA and TCEQ are obligated to consider the impacts of this proposed project on environmental justice populations and to take actions to “advance environmental justice.” The EPA’s Environmental Appeals Board has held that EPA and state agencies that issue federal permits under delegated authority from EPA must complete an environmental justice analysis pursuant to Executive Order 12898 prior to issuing federal air permits.⁹ Under Title VI, TCEQ and other recipients of EPA funding must ensure that their actions, such as permitting and siting decisions, do not have discriminatory effects.¹⁰ Indeed, recent letters from EPA to state and local permitting agencies in Chicago and Michigan cautioned that proposed permits in overburdened, environmental justice communities raised “significant civil rights concerns” and recommended that “the state conduct a robust analysis to assess the full environmental justice implications of siting this facility in a community already overburdened by pollution, and then use that analysis to inform any permitting decision.”¹¹

b. EPA Review is Necessary Because TCEQ Does not Conduct any Environmental Justice Review in Permitting.

It is essential that EPA evaluates the environmental justice impacts of this proposed new industrial facility in the Hillcrest community because TCEQ fails to conduct any environmental justice analysis in permitting. In response to concerns raised by residents across the state, from Port Arthur to Manchester to Brownsville to El Paso, about the environmental justice impacts of TCEQ’s permitting of facilities in communities of color and low-income communities across Texas, TCEQ repeatedly responds by acknowledging it does no environmental justice review. For example, in response to comments regarding whether impacts to an environmental justice

⁷ 40 C.F.R. § 7.35.

⁸ 40 C.F.R. § 7.35(c) (emphasis added). EPA’s authority to ensure compliance with Title VI “includes the authority to ensure the activities they fund that affect human health and the environment, do not discriminate on the basis of race, color, or national origin. Therefore, agencies can use their Title VI authority, when appropriate, to address environmental justice concerns.” U.S. EPA, “Title VI EJ Comparison” accessed July 10, 2020, <https://www.epa.gov/sites/production/files/2015-02/documents/title-vi-ej-comparison.pdf>.

⁹ See *In re Prairie State Generating Company*, 13 E.A.D. 1, 123 (EAB 2006); *In re Knauf*, 8 E.A.D., at 174-75.

¹⁰ 40 C.F.R. § 7.35.

¹¹ Letter from Michael Regan, Administrator, U.S. EPA, to the Hon. Lori E. Lightfoot, Mayor of Chicago (May 7, 2021), available at <https://aboutblaw.com/XnS>; see also Letter from Cheryl Newton, Acting Regional Administrator of EPA Region 5, to Mary Ann Dolehanty, Air Quality Division, Michigan Department of Environment, Great Lakes and Energy (Sept. 16, 2021), available at https://www.deq.state.mi.us/aps/downloads/permits/PubNotice/90-21/90-21Ajax_EGLE_EPA_Permit_Comment_Letter.pdf.

community had been adequately considered for a new concrete batch plant in Houston, the TCEQ stated:

This issue . . . is not relevant to issuance of the permit. No TCEQ permitting rules address environmental equity issues such as the location of permitted facilities in areas with minority and low-income populations, disparate exposure to pollutants of monitoring and low-income populations, or the disparate economic, environmental, and health effects on minority and low-income population. Therefore, the environmental justice issue cannot be addressed in proceedings on this application and cannot be considered relevant and material to the commission's decision on this application.¹²

Similarly, in response to comments raising environmental justice concerns regarding a proposed oil refinery in Brownsville, Texas, the TCEQ stated:

Air permits evaluated by the agency are reviewed without reference to the socioeconomic or racial status of the surrounding community. Although there are no TCEQ rules addressing environmental equity issues, such as the location of permitted facilities in areas with minority and low-income populations, disparate exposures of pollutants to minority and low-income populations, or the disparate economic, environmental, and health effect on minority and low-income populations, the TCEQ has made a strong policy commitment to address environmental equity.¹³

c. Hillcrest is an Environmental Justice Community.

i. Hillcrest History: from Segregation to Industrial Exploitation

The historically African American community of Hillcrest makes up part of what is commonly known as the Northside neighborhoods of Corpus Christi. Hillcrest has suffered from a legacy of racist land use decisions made by the City of Corpus Christi and other governmental entities that span from past policies of overt racial segregation to industrial developments that continue to disproportionately impact the predominantly African American and Hispanic/Latino community.

Over two generations, the City enforced policies of racial segregation that required all African Americans who lived within Corpus Christi city limits to live in the Northside neighborhoods.¹⁴ During the Jim Crow era, the City's Planning and Zoning Commission imposed zoning restrictions on African Americans. These racist zoning restrictions limited African Americans to the Northside after oil was discovered there and as oil refineries began to

¹² Executive Director's Response to Hearing Requests and Requests for Reconsideration Brief for Texas Concrete Enterprise Ready Mix, Inc., Permit No. 150603; TCEQ Docket No. 2018-1663-AIR.

¹³ Executive Director's Response to Comments, Jupiter Brownsville, LLC, Permit Nos. 147681, PSDTX1522, and GHGPSDTX172, at page 39 of 60.

¹⁴ Melissa Beeler, Why Corpus Christi's Northside Neighborhoods Matter, Texas Housers (Aug. 3, 2013), <https://texashousers.org/2015/08/03/why-corpus-christis-north-side-neighborhoods-matter/>.

cluster in the area along the port, in what is now known as “refinery row.” However, the picturesque neighborhood of Hillcrest was for whites only until about a decade after the first refineries arrived in the Port of Corpus Christi. In 1944, once the refineries had established themselves in the area, the City began to allow African Americans to move to Hillcrest.¹⁵

Since then, Hillcrest has been continually sequestered by a sea of pollution sources that now include refineries, the ship channel to its north, Highway I-37 to its south, and the ongoing construction of Harbor Bridge to its east. Interstate Highway I-37 was built during the 1960s, further entrenching the racial barrier that the City had cultivated between Hillcrest and the City’s white population. The African American population in Hillcrest increased between 1960 and 1970, from less than a quarter to three quarters.¹⁶

Another early example of disparate racial impacts resulting from the City’s land use decisions concerns the siting of sewage facilities. Hillcrest and the surrounding Northside neighborhood are situated within Corpus Christi’s Census Tracts 4 and 5. In the 1930s, with miles of vacant land surrounding Corpus Christi, the City chose to construct its sewage plant in Census Tract 4, the only place where African Americans could legally reside within the City at that time. By 1995, that plant, known as the Broadway Sewage Treatment Plant, was the source of virtually unmitigated foul odors and ongoing violations of environmental standards. In response to complaints from residents, the City commissioned a study, which concluded that the City could save thousands of dollars and reduce the overall number of sewage treatment facilities by closing the Broadway plant and diverting that waste to another treatment facility.

In 1997, after the City Council voted to shut down the plant and to follow the diversion plan recommended by the study, the City promised Hillcrest residents it would close the aging treatment plant by 2001. The City later reversed course and decided, without any community involvement or notice, to maintain operation of the Broadway plant and to move ahead with plans for a new sewage plant also located in Northside. Before announcing its decisions to keep the old plant open and to site a new plant in the neighborhood, the City demolished 200 units of housing that had been provided by the U.S. Department of Housing and Urban Development (HUD), and it also closed all schools in the area. As a result, the Northside, which used to be the densest residential neighborhood in the City, suffered a 30 percent population decrease by 2007.

The City’s plan to site a new plant in the neighborhood was only thwarted by concerted community efforts, during which the Hillcrest Residents Association (“HRA”) filed an administrative complaint under Title VI of the Civil Rights Act against the City for discrimination in the siting of the sewage treatment facility “in the context of a long history of racist land use decisions affecting African Americans and the Northside and Hillcrest neighborhoods.”¹⁷

¹⁵ Priscila Mosqueda, A Neighborhood Apart, TEXAS OBSERVER (June 1, 2015, 2:06 PM), <https://www.texasobserver.org/txdot-threatens-to-sever-corpus-christi-neighborhood/>.

¹⁶ *Id.*

¹⁷ Complaint under Title VI of the Civil Rights Act of 1964 by Hillcrest Residents Association vs. City of Corpus Christi (April 5, 2007), available at https://www.epa.gov/sites/production/files/2015-02/documents/04r-07-r6_complaint_redacted.pdf.

Another example occurred in 2007, when a federal judge found that the nearby Citgo refinery violated the Clean Air Act by illegally operating two uncovered tanks that contained oil and toxic chemicals including benzene, a known carcinogen.¹⁸ That same refinery was the subject of a recent study, which found that it was among 13 facilities that exceeded the EPA's "action level" in 2020 for average annual benzene emissions.¹⁹ Further, a 2008 study found that Hillcrest residents showed average levels of benzene that were 280 times those found in the general population.²⁰

From 2013-2015, the Texas Department of Transportation ("TxDOT") led the environmental impact analysis and planning process for a new Harbor Bridge in Corpus Christi, including analyzing various alternative routes for the new bridge. Despite repeated objections from Hillcrest residents and civil rights groups, TxDOT ignored residents' input and chose the "Red Route" as its preferred alternative, which would completely isolate Hillcrest on the 4th side in an industrial area and bring additional pollution and noise to the already overburdened neighborhood (see **Figure 1**, below). In March 2015, Hillcrest residents filed another administrative complaint under Title VI of the Civil Rights Act, this time against TxDOT for the disparate impacts the Red Route of the new Harbor Bridge would cause to the Hillcrest and Washington Coles communities.²¹ After the Federal Highway Administration's ("FHWA") Office of Civil Rights accepted the complaint and put the highway project on hold while it undertook a Title VI investigation, community members organized and advocated for their neighborhood, leading FHWA and TxDOT to enter into a Voluntary Resolution Agreement in December 2015, which allowed the Harbor Bridge project to move forward only with tens of millions of dollars for community mitigation, including a voluntary relocation program for Hillcrest residents, a community advisory board, and park improvements and historical preservation in Hillcrest and Washington Coles, among other provisions.²² The construction of the new Harbor Bridge is ongoing, and while over 250 households moved out of Hillcrest as part of the relocation program, many people remain in the neighborhood, either by choice or due to

¹⁸ After a seven-year delay, the federal judge imposed a \$2 million fine. The Court of Appeals for the Fifth Circuit later overturned the conviction and fine, finding that the exposed tanks did not meet the regulatory definition for oil-water separator tanks and thus were not subject to the relevant pollution controls under the Clean Air Act, despite nearly a decade of storing uncovered toxic chemicals, including benzene, in the area. *U.S. v. CITGO Petroleum Corp.*, 801 F.3d 477 (5th Cir. 2015); see also Priscila Mosqueda, Victims Disappointed by Small Penalty in CITGO Criminal Case, *Texas Observer*, (Feb. 6, 2014) <https://www.texasobserver.org/victims-disappointed-small-penalty-citgo-criminal-case/>.

¹⁹ Environmental Integrity Project, 13 Oil Refineries in U.S. Released Cancer-Causing Benzene Above EPA Action Levels in 2020 (Apr. 28, 2021), <https://environmentalintegrity.org/news/13-oil-refineries-in-u-s-released-cancer-causing-benzene-above-epa-action-levels-in-2020>.

²⁰ Biological and Environmental Monitoring for Exposure to Benzene and Related Petroleum Chemicals (2008) at 8-9, <https://www.atsdr.cdc.gov/HAC/pha/CorpusEI/CorpusTXHCEI12052011.pdf>.

²¹ Complaint under Title VI of the Civil Rights Act of 1964 by Hillcrest residents vs. Texas Department of Transportation, regarding the Corpus Christi Harbor Bridge (March 5, 2015), available at <https://savehillcrestfromharborbridge.files.wordpress.com/2015/03/title-vi-complaint-final-w-signatures.pdf>.

²² See Lawyers Committee for Civil Rights Under Law, *Historic Agreement Resolves Environmental Justice Complaint in Corpus Christi, Texas* (Dec. 18, 2015), <https://www.lawyerscommittee.org/historic-agreement-resolves-environmental-justice-complaint-in-corpus-christi-texas/>; Voluntary Resolution Agreement between FHWA and TxDOT, available at <https://ccharborbridgerelocation.com/wp-content/uploads/2019/02/Voluntary-Resolution-Agreement-signed-Two-Party.pdf>.

legal or technical barriers to participating in the relocation program.²³ Unfortunately, a lot of challenges and unexpected issues have arisen in the implementation of the Harbor Bridge Title VI agreement.²⁴

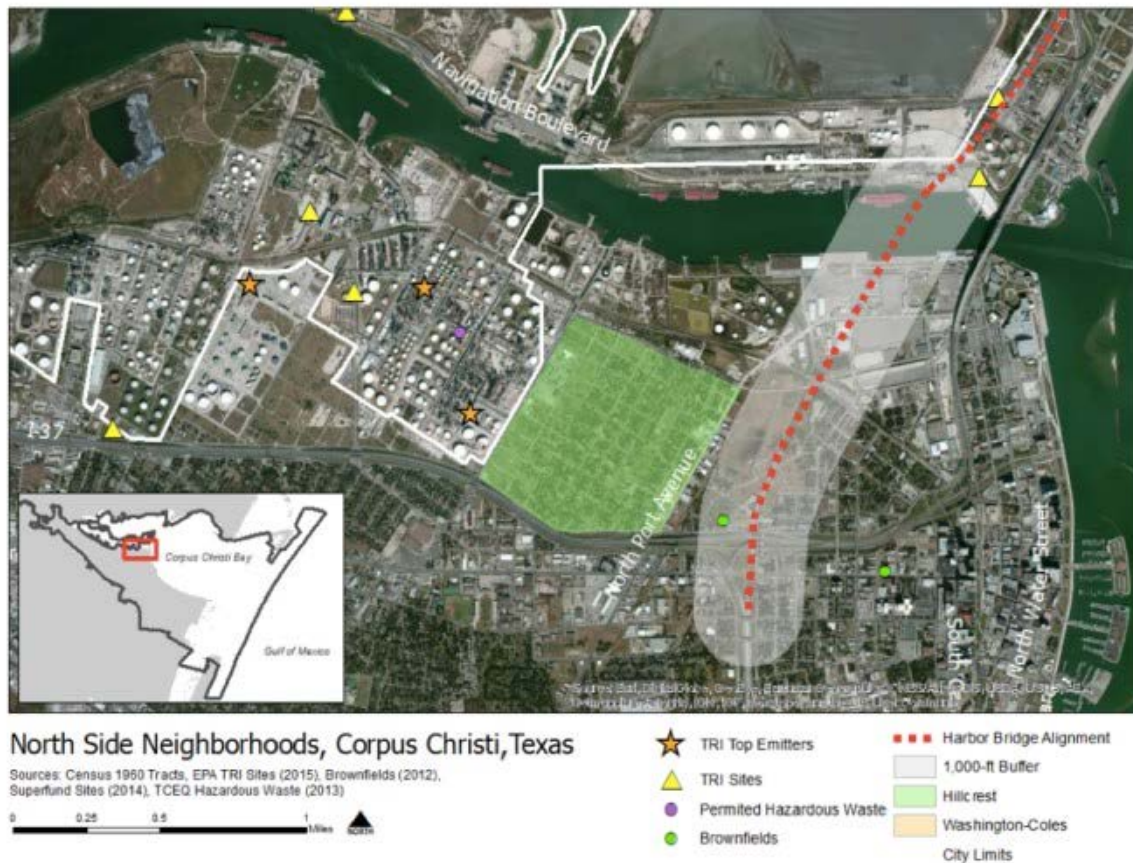


Figure 1. Map of the Hillcrest Neighborhood with the new Harbor Bridge and Existing Industry, Ship Channel and Highways²⁵

ii. Health and Safety Harms in the Hillcrest Community

The legacy of these past policies, enforcement failures, and ongoing land use decisions continues to directly impact the health and everyday life of Hillcrest residents. Residents of Corpus Christi's refinery row, which includes Hillcrest, already suffer from disproportionately

²³ See Harold D. Hunt and Clare Losey, *Crossing the Bridge: Lessons Learned from the Hillcrest Relocation*, Texas A&M University Texas Real Estate Research Center (March 6, 2020), available at <https://www.recenter.tamu.edu/articles/tierra-grande/Crossing-the-Bridge-2262>.

²⁴ See Citizens Alliance for Fairness and Progress, *The Hillcrest Documentation Project: A community perspective on the Hillcrest neighborhood's battle for environmental justice* (April 20, 2021); see Hunt and Losey (2020).

²⁵ Map created by Texas Housers, available at <https://texashousers.org/2015/08/07/the-story-behind-the-harbor-bridge-segregation-neglect-and-pollution-in-corpus-christi/>.

high incidences of cancers, asthma, and birth defects.²⁶ Harmful impacts experienced by the community also include noise pollution, sirens, dust and traffic, light from industrial flares, vibrations, and foul odors.²⁷

The Hillcrest community already faces neglect from the City, increasing isolation, elevated noise levels, ongoing exposure to pollutants, and the cumulative mental health impacts that the preceding factors have caused. Members of the Hillcrest community are increasingly physically isolated from the City of Corpus Christi. As noted above, with the addition of the Harbor Bridge, the community is now completely encircled by busy highways and industrial activities that hamper residents' access to the rest of Corpus Christi. As long-time Hillcrest resident and community leader Lamont Taylor expressed, people "can barely get there. There's no quick access to Hillcrest." He went on to state that the City "ha[s] disrupted the pattern of people trying to go see their loved ones over there ... people have to traverse construction. Sometimes it's open, sometimes it's closed ... they make it difficult." Even first responders have had issues accessing the area. Rev. Adam Carrington, who pastors one of the only churches remaining in Hillcrest, explained that he "had an emergency at the church Sunday and it took them an hour to get there." Finally, the physical isolation is further exacerbated by the lack of public transportation. According to Taylor, the third largest public transit line in Corpus Christi used to run through the area, but since construction began, the area is now serviced by just a minibus.

Furthermore, Hillcrest suffers from ongoing neglect from the City. The most recent relocation program resulting from the Harbor Bridge project was accompanied by specific mitigation measures meant to improve the community parks in Hillcrest and the neighboring Washington Coles for those who stayed in their homes. However, five years have elapsed and none of those park mitigation measures have even started construction. The City's neglect of residents who chose to stay in their historic community is also apparent in inconsistent access to services like garbage pick-up and clean drinking water. Additionally, increased traffic and noise from bridge construction has exacerbated the existing impacts. For example, large trucks regularly traverse the neighborhood, damaging roads and increasing noise levels.

In addition, the relocation of many residents and ongoing neglect of remaining vacant properties has contributed to the remaining residents' sense of isolation. Rev. Carrington explained the devastation: "Hillcrest neighborhood has been destroyed right in front of my eyes. Destroying houses, families destroyed, friendships destroyed. People who grew up next to each other for 50-60 years are now alone." This physical and social isolation takes a toll on the mental health of the remaining Hillcrest residents, as Taylor explained: "[D]epression and despair, those are the things you see over there." Despite these ongoing impacts, and the threat of further industrialization posed by the proposed desalination plant, current and former Hillcrest residents

²⁶ Agency for Toxic Substances and Disease Registry, *Corpus Christi Refinery Row Brochure*, August 2016, available at https://www.atsdr.cdc.gov/HAC/pha/CorpusChristi/Brochure_Fact_Sheet_508.pdf.

²⁷ See Complaint under Title VI of the Civil Rights Act of 1964 by Hillcrest residents vs. Texas Department of Transportation, regarding the Corpus Christi Harbor Bridge, 4-6 (March 5, 2015).

remain tied to their neighborhood, churches, and what remains of their community, continuing to advocate for the protections that they deserve in the face of the City's continued maltreatment.

iii. Hillcrest Demographics

At least 75-100 households continue to live in Hillcrest, and many former Hillcrest residents regularly return to the neighborhood to visit friends and family or attend church.²⁸ The Hillcrest neighborhood has a much higher percentage African American population than the city of Corpus Christi (33.7% compared to 4.3%) and a higher percentage total non-white population than the city as a whole (89.4% compared to 71.3%).²⁹ EPA's EJ Screen tool demonstrates that Hillcrest ranks very high on numerous EJ Indexes, which take into account demographic and environmental health data,³⁰ including above the 90th percentile for Traffic Proximity and Volume, RMP Proximity, Hazardous Waste Proximity and Wastewater Discharge Indicator.³¹

d. Additional Harms to the Overburdened Hillcrest Community from the Inner Harbor Desalination Plant

In choosing to locate the Inner Harbor Desalination Plant in the Hillcrest neighborhood, the City has chosen to continue its legacy of decision making that disproportionately impacts one of the only historically Black communities in Corpus Christi.

While the Hillcrest Residents Association was successful in stopping the proposed sewage treatment facility in their neighborhood in the mid-2000s, the proposed Inner Harbor Desalination Plant sits almost precisely in the footprint of the proposed sewage treatment facility that the community fought so hard to avoid. Now, little more than a decade later, the same community has been forced to contend with the possibility of an additional source of construction, noise, and pollution in their neighborhood.

In the face of this most recent threat from the City, some residents fear that their community cannot survive the continued onslaught of industrial expansion in their neighborhood. Community leader Lamont Taylor characterized the City's most recent actions, thusly: "It's benign neglect, they're trying to starve us out, that's what they're doing." He predicted that "this will be the death nelly for our historic community ... this will wipe out the history of a people in a city."

The proposed Inner Harbor Desalination Plant poses several potentially harmful impacts to the surrounding community and environment in addition to the existing impacts residents face.

²⁸ Personal communication with Rev. Adam Carrington and Lamont Taylor.

²⁹ U.S. Census Bureau, 2020: DEC Redistricting Data for Block Groups 1 & 2, Census Tract 5, Nueces County, Texas (accessed December 21, 2021), available at <https://data.census.gov/cedsci/advanced>. These numbers include some residents in neighborhoods just outside of Hillcrest because of the location of the census block groups. Past numbers from ACS 2014-2018 data for Hillcrest are consistent with these numbers (26% Black, 8% non-Hispanic White, 66% Hispanic/Latino). See **Attachment A**, EJSCREEN ACS Summary Report for Hillcrest.

³⁰ See EPA, *Environmental Justice Indexes in EJSCREEN*, available at <https://www.epa.gov/ejscreen/environmental-justice-indexes-ejscreen>.

³¹ See **Attachments A & B**, reports from EPA, EJSCREEN (Version 2020) for the Hillcrest Neighborhood, <https://ejscreen.epa.gov/mapper/>

These impacts include noise, groundwater contamination, recreational impacts, and various impacts from construction. First, studies on the impacts of desalination on the local environment have found that the high-pressure pumps and turbines used in the reverse osmosis desalination process – the same process to be used in the planned Inner Harbor Desalination Plant – create a level of noise pollution such that desalination plants “should [] be located far away from populated areas or equipped with the appropriate technologies for lowering noise intensities.”³²

The Hillcrest neighborhood has already borne substantial noise impacts from the continued industrialization of their community, notably, from ongoing construction of the Harbor Bridge, which will be the longest cable stay bridge in the U.S. These noise impacts will continue once construction of the Harbor Bridge is completed and highway traffic begins. Noise can cause populations that live in close proximity to the source to experience various adverse health effects. While exposure to normal urban levels of noise during the night has been associated with sleep disturbances, acute exposure to noise can cause increased blood pressure, heart rate, and release of stress hormones.³³ The added noise from construction and operation of the planned desalination plant will increase the burden already experienced by the Hillcrest community.

Next, the proposed desalination plant poses potential harm to groundwater and aquifers in the Hillcrest community, which are already threatened by contamination from other industrial sources.³⁴ Site selection and method of discharge appear to be the most important factors for determining ecological impacts from desalination.³⁵ Harmful impacts from desalination exist especially where the pipelines carrying brine are laid above an aquifer, creating potential for leaks and subsequent contamination.³⁶ Given that the Inner Harbor Desalination Plant is currently proposed to be sited hundreds of meters away from the intake and discharge points, pipelines will likely be required to transfer seawater and wastewater to and from the plant.³⁷ These pipelines pose a further risk of contamination to the Hillcrest community’s groundwater, which is already endangered by surrounding sources of industrial pollution, as supported by a recent study, which noted that groundwater contamination from neighboring industrial properties “ha[d] most likely moved into the Hillcrest neighborhood.”³⁸

³² Einav et al., The footprint of the desalination processes on the environment, 152 *Desalination* 141, 145 (2003). See also R. Venkatesan, Comparison between LTTD and RO process of sea-water desalination: an integrated economic, environmental and ecological framework, 106 *Current Science* 378, 380 (2014) (Noting that desalination plants can cause noise pollution, gaseous emissions, and chemical spills); Fahad Ameen et al., The carbon footprint and environmental impact assessment of desalination, 75 *Int’l J. of Env’tl. Stud.* 45, 50 (2018), <https://doi.org/10.1080/00207233.2017.1389567> (Listing potential negative impacts of desalination, including noise pollution, impact to groundwater, land use, impact on marine environment, and energy use).

³³ H. Ising, B. Kruppa, Health Effects Caused by Noise: Evidence in the Literature From the Past 25 Years, *NOISE HEALTH* 5, 5-13 (2004).

³⁴ U.S. EPA, Summary of the Groundwater Flow Directions, Hillcrest Neighborhood, Corpus Christi, Texas, p. 3, (Feb. 7, 2012), <https://www.tceq.texas.gov/assets/public/implementation/tox/hcei/phase2/completion/groundwater.pdf>.

³⁵ Southern California Coastal Water Research Project, Management of Brine Discharges to Coastal Waters, Recommendations of a Science Advisory Panel (2012), at 13, https://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/docs/dpr051812.pdf.

³⁶ Einav et al, The footprint of the desalination processes on the environment, 152 *Desalination* 141, 152 (2003).

³⁷ Cite to TCEQ Industrial Wastewater Permit App

³⁸ See *supra* documents accompanying footnote 16.

Further, the proposed desalination plant poses a risk to recreational activities that Hillcrest residents enjoy at the closest beaches and fishing areas where the ship channel connects to Corpus Christi Bay. This risk is created by disposal of a hypersaline concentrate, also known as “brine,” which is a byproduct of the seawater desalination process.³⁹ In addition, brine discharge may also contain chemical contaminants from the desalination process.⁴⁰ Brine discharge from desalination plants can cause sea desertification and harm the surrounding marine eco-systems. For example, in one locality that was considering implementing desalination technologies, experts estimated that with the projected brine discharge, “the fish catch would decrease by about 30%.”⁴¹ Brine discharge has been well-documented as harmful to surrounding marine biotas. The increased salinity from brine discharges may also lead to hypoxia, or depleted levels of oxygen in water, further stressing the marine eco-systems and interrupting the recreational activities that rely on them.⁴²

III. The Proposed Inner Harbor Desalination Plant Presents Significant Environmental Concerns.

In addition to the significant environmental justice issues that the City’s proposed desalination plant presents, and as described above, the project presents many of the same environmental impacts and concerns that other proposed desalination plants in the Corpus Christi Bay area present. Namely, under a proper Tier 2 anti-degradation analysis, the cumulative impact of the proposed discharge will result in a greater than de minimis lowering of water quality; yet the City has failed to demonstrate that the facility is necessary for important economic or social development, as required by the Tier 2 anti-degradation requirements in TCEQ’s rule. 30 Tex. Admin. Code § 307.5(b)(2). Further, the City’s representative has stated that the water from the proposed desalination plant may be used by industry as cooling water, yet there is no indication that TCEQ or the City intends to address the requirements found in the Clean Water Act Section 316(b).

A. The City’s Application Does Not Satisfy Tier 2 Anti-Degradation Requirements.

In conformance with EPA’s minimum requirements, TCEQ’s water quality standards provide that no permit may be issued that would cause degradation of receiving waters unless it is shown that the lowering of water quality is necessary for important economic or social development.⁴³ TCEQ’s water quality standards establish that the highest water quality sustained

³⁹ NEHA, The Permitting of Desalination Facilities: A Sustainability Perspective, 79 J. of Env’tl. Health 28, 30 (2016); Fahad Ameen et al., The carbon footprint and environmental impact assessment of desalination, 75 Int’l J. of Env’tl. Studies 45, 46-7 (2018) (describing common desalination processes).

⁴⁰ *Id.* at 49-50. *See also* R. Venkatesan, Comparison between LTTD and RO process of sea-water desalination: an integrated economic, environmental and ecological framework, 106 Current Science 378, 380 (2014).

⁴¹ R. Venkatesan, Comparison between LTTD and RO process of sea-water desalination: an integrated economic, environmental and ecological framework, 106 Current Science 378, 384 (2014).

⁴² NEHA, The Permitting of Desalination Facilities: A Sustainability Perspective, 79 J. of Env’tl. Health 28, 30 (2016); *See also* Chrysi Lapidou et al., Minimizing the Environmental Impact of Sea Brine Disposal by Coupling Desalination Plants with Solar Saltworks: A Case Study for Greece, 2 Water 75, 83 (2010).

⁴³ 30 Tex. Admin. Code § 307.5(b)(2).

since November 28, 1975 is to be the baseline for a determination of whether degradation will result from a discharge.⁴⁴

The proposed discharge is proposed to be located in the Inner Harbor, in close vicinity of several existing discharges, including: the discharge of 3.6 MGD of wastewater from the Flint Hills Refinery, 6.2 MGD of wastewater from the Citgo Refinery, and 10 MGD of wastewater from the Corpus Christi Cogeneration Plant, a combined cycle electricity generation facility.

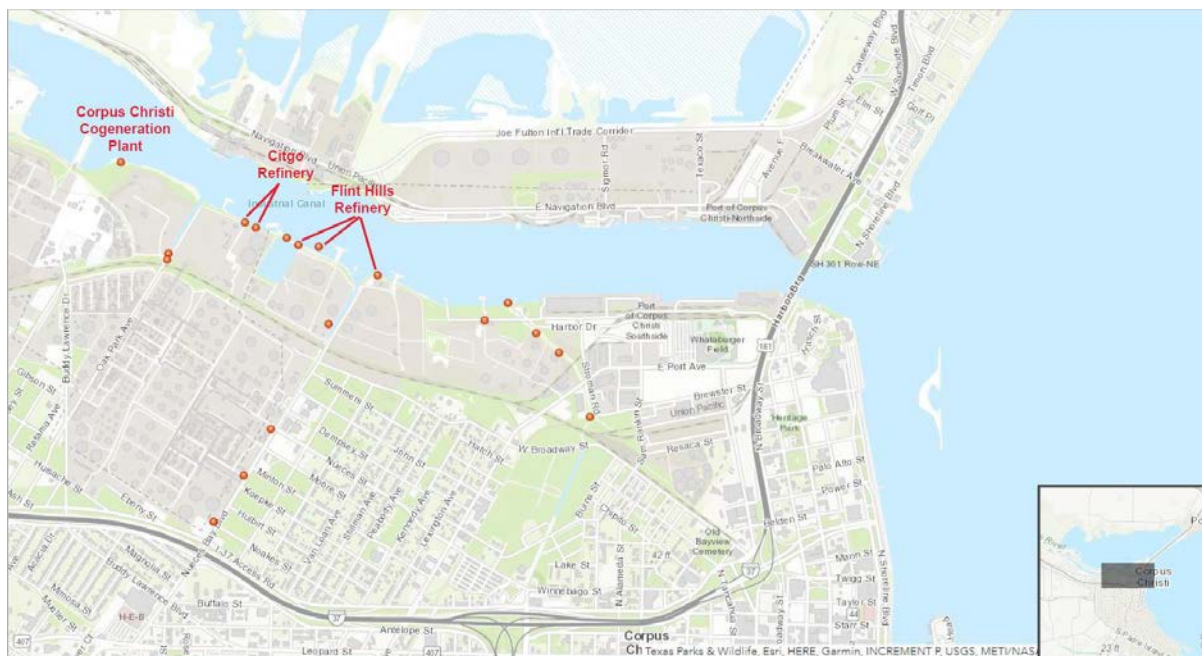


Figure 2. Image From TCEQ's Wastewater Outfalls Viewer

The City cannot demonstrate that the lowering of water quality that would result from its proposed desalination plant, in combination with the lowering of water quality caused by the existing discharges into Inner Harbor, would result in a less than de minimis lowering of water quality.

Accordingly, the requested permit would need to undergo a full Tier 2 anti-degradation review. And the City must thus demonstrate the resulting cumulative lowering of water quality is necessary for important economic or social development. The City has not yet presented such a showing to TCEQ, and it will not be able to do so, considering the historical and ongoing social and economic harm that the City's policies and practices have caused the Hillcrest community. Moreover, as discussed below, the City has thus far been unable to articulate a specific need or project that the proposed desalination facility would fulfill. Accordingly, EPA should recommend denial of the City's requested permit because the proposed discharge will cause a greater than de minimis lowering of water quality without demonstration of necessity for important economic or social development, in violation of Tier 2 anti-degradation requirements.

⁴⁴ 30 Tex. Admin. Code § 307.5(c)(2)(B).

B. Cooling Water Intake Requirements Have Not Been Evaluated Under 316(b).

Clean Water Act Section 316(b) requires that the location, design, construction, and capacity of cooling water intake structures (“CWIS”) reflect the best technology available for minimizing adverse environmental impacts.⁴⁵ At Title 40, Chapter 125 of the Code of Federal Regulations, EPA has published rules governing the evaluation of intake structures and imposition of requirements regarding intake structures in NPDES permits. TCEQ Rule 308.91⁴⁶ incorporates the provisions of 40 C.F.R. Part 125, Subpart I, including Sections 125.81 and 125.83.

Per 40 C.F.R. § 125.81, a facility is subject to the CWIS requirements if the facility:

- (1) is a point source that proposes to use a cooling water intake structure;
- (2) has at least one CWIS that uses at least 25% of the water it withdraws for cooling purposes;
- (3) has a design intake flow greater than 2 MGD.

The City’s proposed facility is a point source and has a design intake flow greater than 2 MGD. So, the sole question in determining whether the permit must include requirements applicable to the intake structures is whether the intake for the facility is a “cooling water intake structure.”

The term “cooling water intake structure” is defined to mean “the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the U.S.” The term “cooling water” is defined to include “water used for contact or noncontact cooling” 40 C.F.R. § 125.83.⁴⁷ Use of cooling water for cooling water purposes *is not required to occur at the same point or by the same entity* as the withdrawal, as reflected by the regulatory specification that use of a cooling water intake structure includes “obtaining cooling water by any sort of contract or arrangement with an independent supplier (or multiple suppliers) of cooling water if the supplier or suppliers withdraw(s) water from waters of the United States.” 40 C.F.R. § 125.81(b).

By the pending Application, the City seeks authorization to allow it to serve as an independent supplier of cooling water. This was made apparent by the City’s Director of Water Utilities, Kevin Norton, who admitted, during a public meeting convened by TCEQ, that the water produced by the proposed desalination plant would be available to industry, including for cooling water purposes.⁴⁸ Indeed, the City will be authorized to provide 100% of the water

⁴⁵ 33 U.S.C. § 1326(b).

⁴⁶ 30 Tex. Admin. Code § 308.91.

⁴⁷ In full, “cooling water” is defined to mean “water used for contact or noncontact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used, or from auxiliary operations on the facility’s premises. Cooling water that is used in a manufacturing process either before or after it is used for cooling is considered process water for the purposes of calculating the percentage of a new facility’s intake flow that is used for cooling purposes in § 125.81(c).” 40 C.F.R. § 125.83.

⁴⁸ TCEQ Public Meeting Regarding the City’s Application for Water Rights Permit No. 13676, for the City’s proposed Inner Harbor Desalination Plant; March 18, 2021.

produced at the desalination plant for ultimate use as cooling water. Even if substantially less than all the water produced at the facility was used for industrial purposes, it would remain true that more than 25% of the water drawn through the intake structures at the facility would ultimately be used as cooling water, rendering the intakes “cooling water intake structures” subject to the requirements of CWA § 316(b). Yet, the City’s Application does not even acknowledge that the intakes are cooling water intake structures, even though the City’s own Director of Water Utilities admitted that the water generated by the desalination plant could be used by industry for cooling water purposes. Accordingly, EPA should recommend denial of the requested discharge permit because the necessary 316(b) cooling water intake requirements have not been evaluated and imposed.

In the alternative, EPA should object to issuance of the requested permit unless a condition is added that less than 25% of the water drawn into the facility may be provided for use as cooling water.

Conclusion

For the reasons described above, HRA asks that the EPA recommend denial of the Application because the proposed discharge will adversely impact a community with existing environmental justice concerns and degrade water quality without the required showing of necessity and because the Application fails to address the requirements of CWA § 316(b) for cooling water intake. We hope to meet with you soon to discuss these concerns and EPA’s review of this Application.

Respectfully submitted,

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